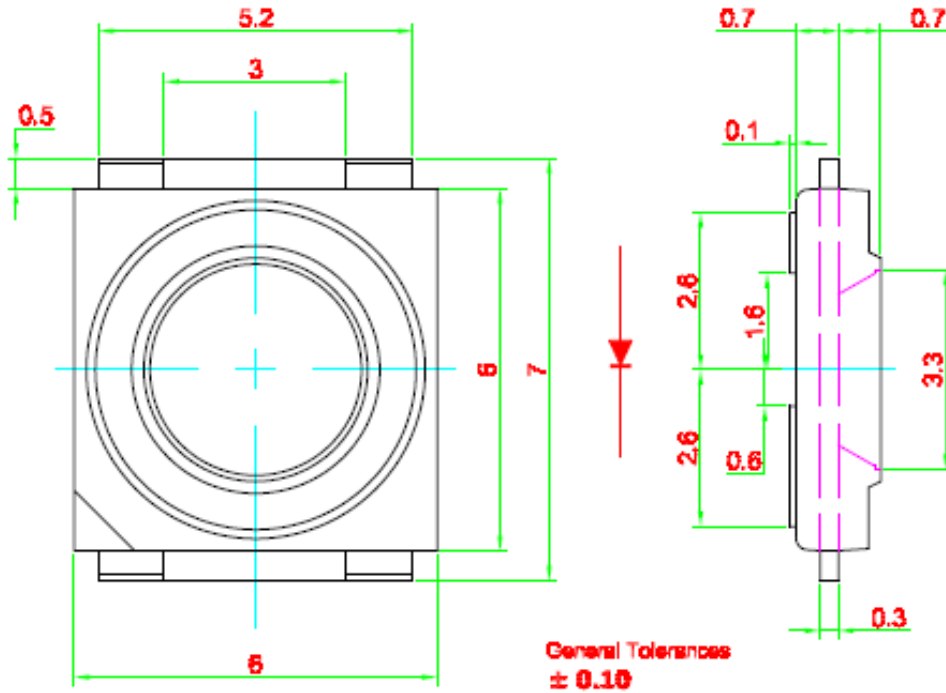


**SH21IR850 High Power 850 nm IR Emitter**

- Super high brightness surface mount LED.
- High flux output.
- Compact package outline (LxW) of 6.0 x 6.0 mm. Ultra low height profile – 1.5 mm.
- Designed for high current drive.
- Low thermal resistance;  $R_{th(j-s)} = 20 \text{ K/W}$ .
- Compatible to IR reflow soldering.
- **SP Vega LEDs are Class 1M LED products. Do not view directly with optical instrument.**

**Absolute Maximum Ratings**

	Maximum Value	Unit
DC forward current.	500	mA
Peak pulse current. ( t p < 10 μsec, D = 0.1 )	1000	mA
Reverse voltage.	5	V
ESD Threshold (HBM)	2	kV
LED junction temperature.	125	°C
Operating temperature.	-40 ... +100	°C
Storage temperature.	-40 ... +100	°C
Power dissipation	1200	mW

**Optical Characteristics at Ta=25°C, If = 500mA.**

Part Number	$\lambda_{dom}$ (nm)	Ie @ If=500mA		Viewing
		Min (mW/sr)	Typ. (mW/sr)	Angle
SH21IR850SS-1	850	40	45	120

1. Radiant intensity is measured with an accuracy of  $\pm 11\%$ .

**Wavelength Grouping.**

Color	Group	Peak Wavelength distribution (nm)
	Full	845 - 865

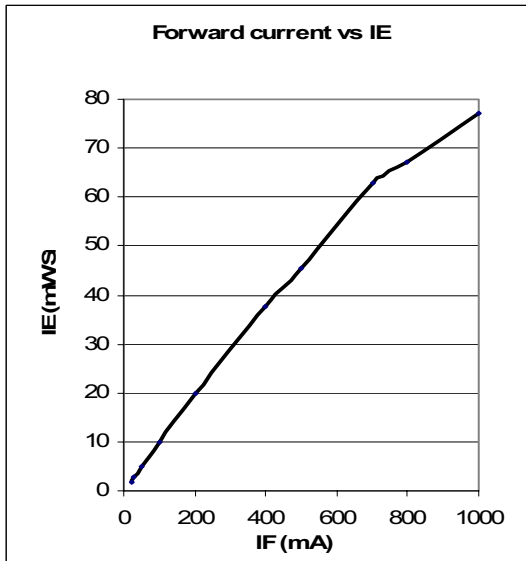
SEAM wavelength is measured with an accuracy of  $\pm 1$  nm.

**Electrical Characteristics at Ta=25°C.**

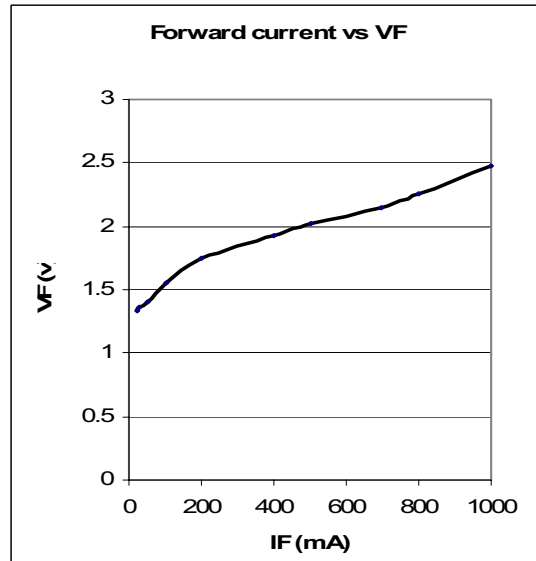
Part Number	Vf @ If=500mA			Vr @ Ir=100uA
	Min. (V)	Typ. (V)	Max. (V)	Min.(V)
SH21IR850SS	1.8	2.0	2.2	5

Forward voltage, Vf is measured with a current pulse of 1 ms and an accuracy of  $\pm 0.1$  V.

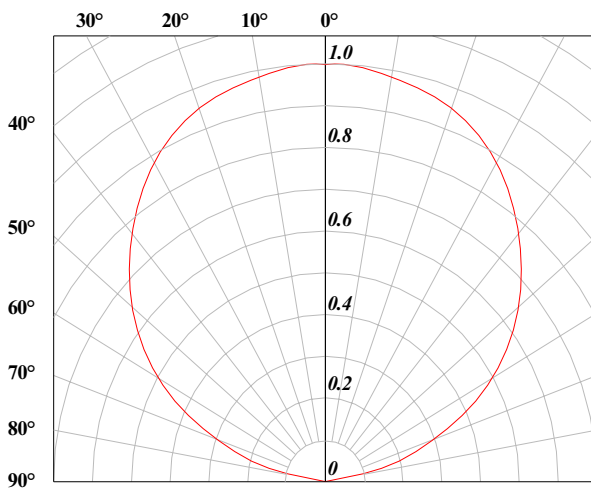
**Intensity vs. Forward Current**



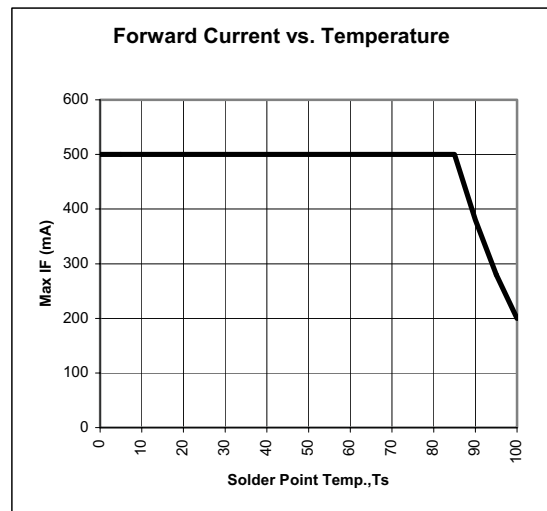
**Forward Current vs Forward Voltage**



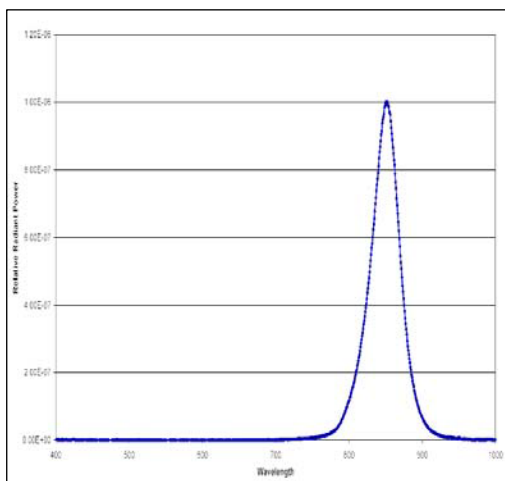
**Radiation Pattern**



**Max Forward Current vs. Solder Point Temperature.**

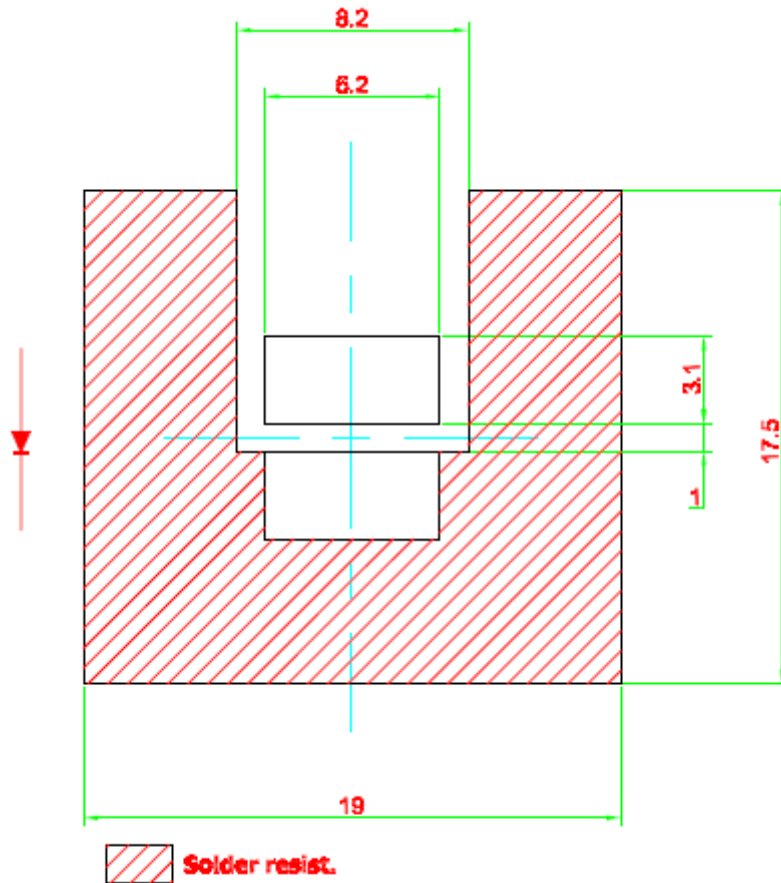


**Radiation Spectrum**



**Solder Pad Design.**

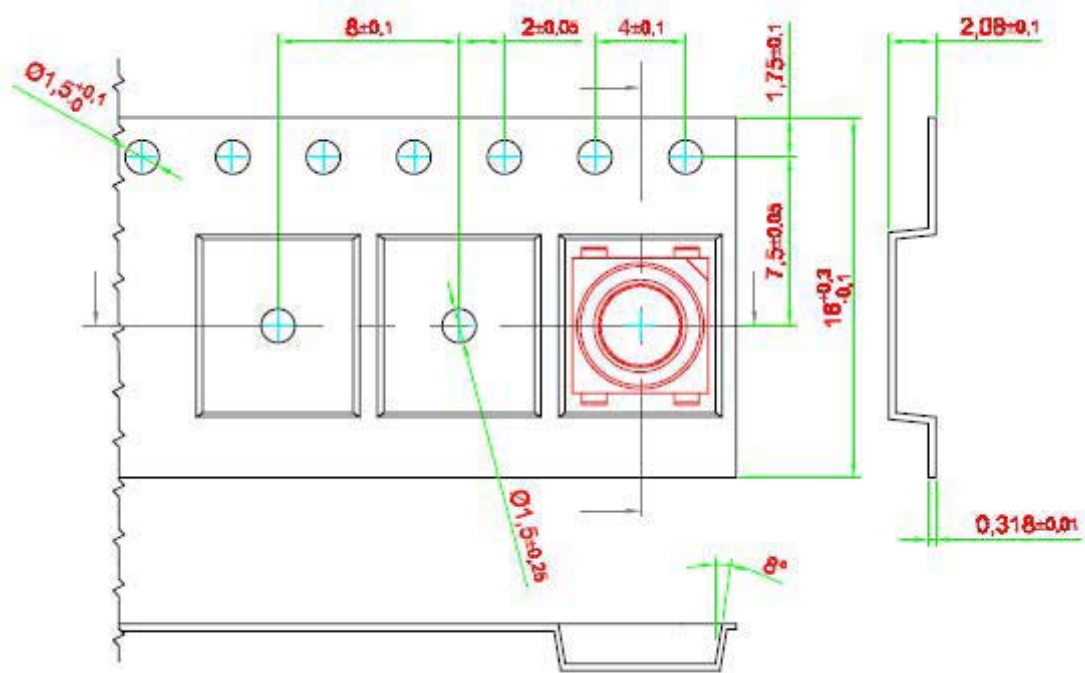
Note : Unit to unit pitching must not be less than 25 mm. Metal core circuit board (MCPCB) is highly recommended for high density applications. Please consult sales and marketing for additional information.



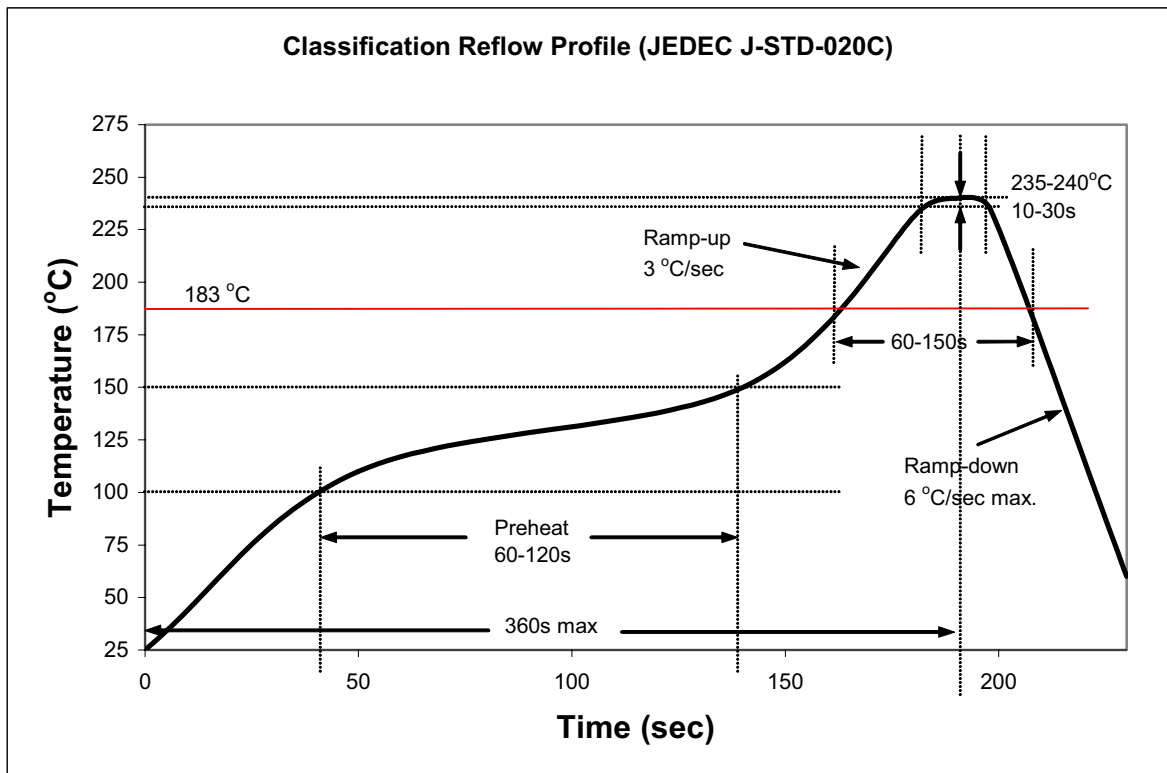
**Taping And Orientation.**

Reels come in quantity of 2000 units.

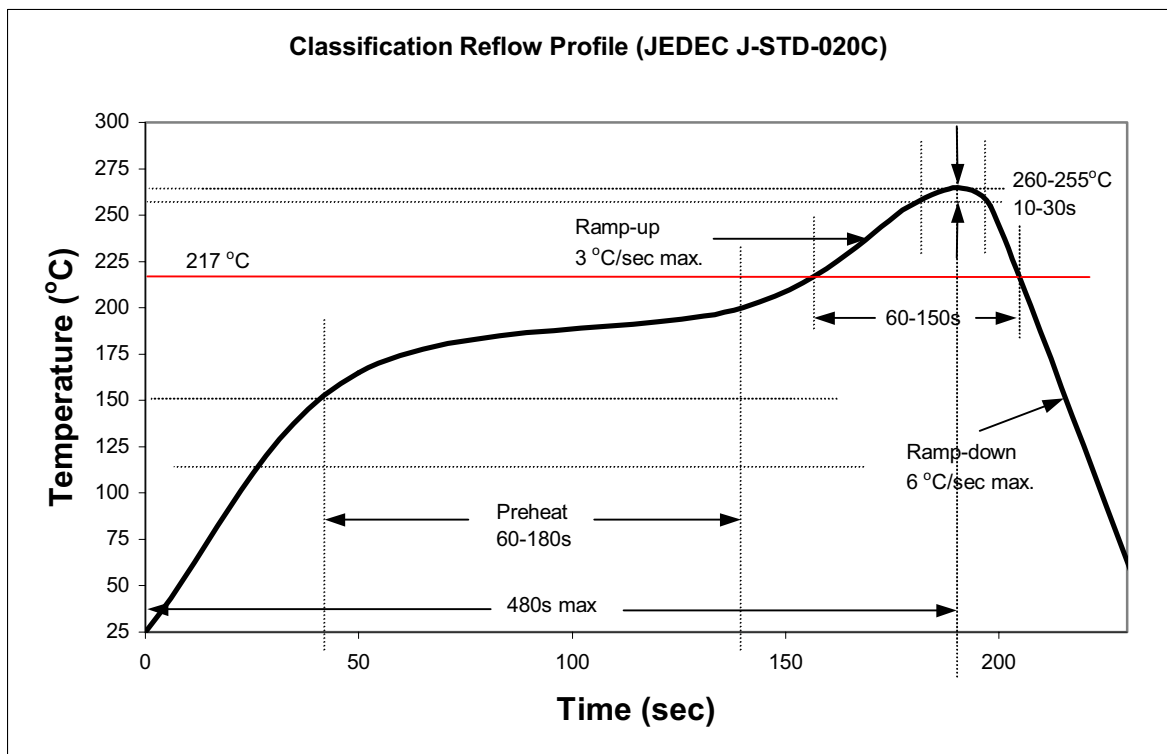
Reel diameters are 330 mm.



**Recommended Sn-Pb IR-Reflow Soldering Profile.**



**Recommended Pb Free IR-Reflow Soldering Profile.**



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**NOTE.**

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